MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALI

INTEROFFICE COMMUNICATION

TO: Deborah Larsen, Project Manager, Specialized Sampling Unit
Superfund Section, Remediation and Redevelopment Division

FROM: Charles Graff, Geologist, Geological Support Unit, Superfund Section
Remediation and Redevelopment Division

C.W.G

DATE: March 25, 2009

SUBJECT: Response to Question from March 17, 2009, North Bronson Industrial Area (NBIA) Meeting Regarding the Completion of the Groundwater Delineation Work

This memorandum is in response to our conversation yesterday, March 24, 2009, in which you requested me to respond to the potentially responsible party (PRP) group's question of whether two additional monitoring wells would be sufficient to complete the groundwater delineation on the western side of the NBIA site; more specifically, west of the Western Lagoon Area (WLA). I have looked at the data collected last fall during the vertical aquifer sampling (VAS) from the initial borings that were performed at the site. I do not have final well completion data for where monitoring well screens were eventually placed, but at least I have the chemical data collected from specific depths below ground level.

It is my understanding that the two locations that the PRP group wants to install monitoring wells at are as such: one due west of location GP-19, close to Burr Oak Road, and the other would be across County Drain 30 (CD #30) from recently installed monitoring well MW-42. The short answer to your question is that these two (or any two) locations will not complete the delineation of the groundwater plume west of the WLA.

In late September 2008, I was involved in a teleconference with Ms. Terese Van Donsel, Mr. Leo Brausch, and a few staff of O'Brien and Gere. We discussed the delineation work that had been performed at that point in time, which was all of the VAS work, minus GP-19. The Geoprobe work had been completed a few weeks earlier, the analytical data was back from the laboratory, and the field crew was installing monitoring wells where the highest contaminant concentrations were detected.

Mr. Brausch wanted to move the hollow stem auger drill rig to the west of the GP-17 boring location into an unplanted portion of the soybean field, since the drill rig was still in the field and the soybeans had not yet been harvested. During this discussion between the parties, I suggested a more appropriate course of action to follow regarding the second, and perhaps last, phase of plume delineation. Based on the data at hand, it appeared that the contaminant plume was at least 300 feet wide from north to south, and this was a rough estimate based on vinyl chloride concentrations. I suggested waiting until the bean field was harvested, which was imminent, and going back to the field with a Geoprobe and performing several VAS borings to better delineate the plume and determine the best locations for eventual monitoring wells.

I directed everyone to locations on the map where I thought we needed to install VAS borings to bound the plume based on the existing data. Everyone expressed agreement in this course of action, agreed that it was reasonable, and appropriate based on the data and the field

conditions. After my discussion with you yesterday, I still stand by this course of action. Attached is a site map with the Geoprobe VAS borings and new monitoring well locations, along with my choices for further plume delineation.

As noted above, the plume dimensions on the western side of the site indicate that the plume is a few hundred feet wide from north to south. The contaminant plume is between MW-40, which has vinyl chloride below the regulatory standard of 2 micrograms per liter (µg/L), to somewhere south of MW-40, which had a vinyl chloride concentration of 8 µg/L. This distance is approximately 300 feet. GP-19 was subsequently installed last fall with the hollow stem auger rig. It appears to be about 175 feet due west of GP-17 and had vinyl chloride at 8 µg/L. Based on this information, the edge of the plume is farther south than MW-40, farther west than GP-19, and farther north than GP-17, which had vinyl chloride at 15 µg/L. The boring locations you will see on the map are an attempt at further defining the outer boundaries of the plume.

The geology/stratigraphy in this portion of the site is different from the remainder of the site to the east and south. There are more fine-grained sediments in this area with apparent preferential flow paths for groundwater migration, as seen by plume migration to the west, south of MW-41. We cannot assume that the plume simply migrates a little further to the west and then stops, or otherwise fades out. To complete this plume delineation, we need to install VAS borings that will provide us with the data to accomplish this task and determine the final boundaries of the plume, wherever the data lead us. Subsequent monitoring well installations will need to be determined based on site conditions.

It is not possible to determine the plume boundaries west of the WLA with just two monitoring wells, especially when one of them is simply placed across CD #30 from another existing monitoring well. Incidentally, a boring location across from MW-42 was discussed during the call in September 2008. Delineation by installing monitoring wells alone is problematic by itself, and is rarely appropriate for performing delineation work. It is best to gather sufficient information using reconnaissance methods to decide the optimum locations for permanent monitoring well locations.

There are two main areas to focus the delineation work: to the west of GP-17, and along the north side of CD #30 to determine the plume boundaries as well as groundwater flow patterns. See the attached map for these locations (stars on the map). If the locations across from MW-39 and MW-42 have contaminant concentrations above regulatory standards, then the VAS boring located between them should be installed.

Please contact me if you have any questions.

S:RRDSFS/Sites/North Bronson Industrial Area/Docs/GSU/North Bronson/NBIA_FlanlDelin_WLA.cg.309

Charles W. Graff

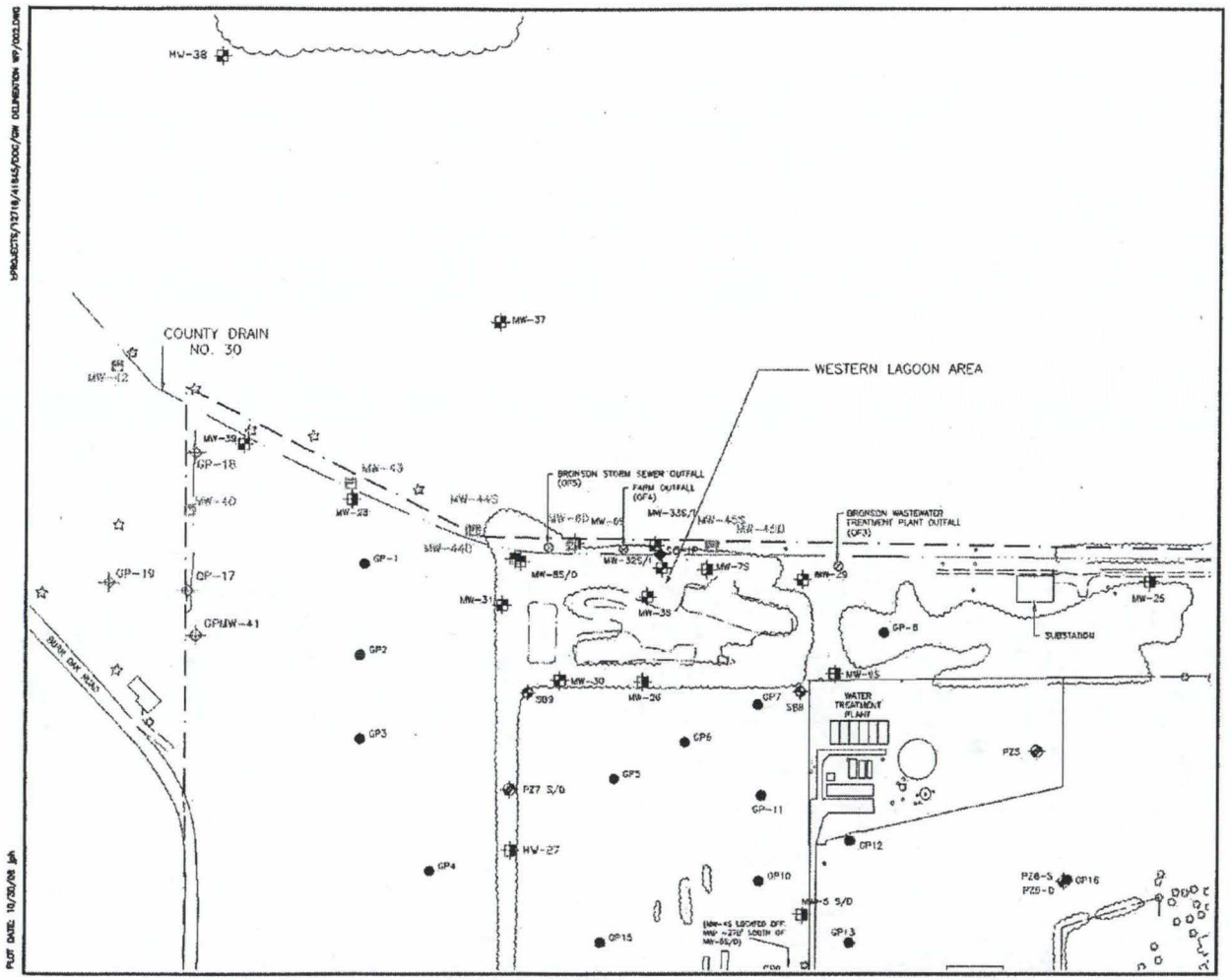

FIGURE 1

NORTH

LEGEND

- APPROXIMATE SITE BOUNDARY
- VAP MONITORING WELL LOCATION
- TEMPORARY VERTICAL AQUIFER PROFILE LOCATION
- STAFF GAUGE
- GEOPROBE LOCATION
- PRE-RI MONITORING WELL
- RI MONITORING WELL
- SOIL BORING LOCATION AND NUMBER
- PRE-DESIGN MW
- MONITORING WELL – BRONSON PRECISION PRODUCT
- PIEZOMETER LOCATION AND NUMBER
- PRIVATE WELL LOCATION

NORTH BRONSON INDUSTRIAL AREA SITE OPERABLE UNIT 1 BRONSON, MICHIGAN

DRAFT

SITE LAYOUT

200 0 200
1"=200'

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NOVEMBER 2008

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